

**REMARKS**

Claims 1-51 are pending in this application, with Claims 1, 12, 19, 29, 34, 36, 43, 45, and 48 being independent. In this Preliminary Amendment, Claims 1-4, 12-13, 19, 21-23, 28-30, and 34 have been amended to focus on hydroxylated derivatives of jasmonic acid. All amendments presented herein are made for reasons of clarity with respect to the specification and drawings, and not for reasons relating to the statutory requirements for patentability.

The Restriction Requirement set forth fifteen groups of claims for restriction purposes, stating that the claims were not linked by a single special technical feature because the invention of Group I (Claims 1-3 and 10-11) allegedly does not constitute an advance over the prior art, in view of the Krajncic, et al. article. Without conceding the propriety of this position, Applicants have amended Claims 1-4, 12-13, 19, 21-23, 28-30, and 34. Applicants respectfully traverse the Restriction Requirement. Pursuant to 37 C.F.R. § 1.143, Applicants request that the requirement be withdrawn altogether, or in the alternative, that the requirement be modified such that the claims of at least Groups IV, V, X, and XI are considered together.

**THE CLAIMED INVENTION IS  
NOVEL, AND CONSTITUTES AN  
ADVANCE OVER KRAJNCIC ET AL.**

Krajncic, et al. discloses the effects of jasmonic acid on flowering in *Spirodela polyrrhiza*. Krajncic, et al. does not disclose or suggest methods for modulating flowering in plants, plants genetically modified to flower early or tardily, compositions for inducing or delaying flowering in a plant, or methods for producing transgenic plants capable of flowering early or tardily, using compounds that are hydroxylated derivatives of jasmonic acid.

Applicants submit that the presently claimed invention is novel, and constitutes an advance over Krajncic, et al. The claims are linked by the discovery that hydroxylated derivatives of jasmonic acid modulate flowering, and the related discovery that a sulfonation reaction catalyzed by sulfotransferases (encoded by the genes AtST2a and AtST2b) inactivates these hydroxylated derivatives of jasmonic acid. Applicants have discovered that there are many advantages to the presently

claimed invention, in which hydroxylated derivatives of jasmonic acid are used, including the ability to avoid the growth inhibition, senescence, and morphological side effects that occur when jasmonic acid is applied directly, as in Krajncic et al. Applicants have also discovered that higher expression of AtST2a correlates to higher levels of hydroxyjasmonate sulfate *in vivo*, thereby delaying flowering time, and that lower expression of AtST2a correlates to lower levels of hydroxyjasmonate sulfate *in vivo*, thereby inducing flowering, as shown by Applicants in Examples 2 and 3. (See pages 28-29.) Applicants predict that AtST2b could be used to achieve the same effects observed with AtST2a, because both of these proteins catalyze the same reaction.

In view of the special technical features that link the claims (i.e., modulation of flowering time via hydroxylated derivatives of jasmonic acid), Applicants submit that unity of invention does exist. More particularly, because this application is a national stage entry under 35 U.S.C. § 371, the unity of invention standards set forth in PCT Rule 13.2, 37 C.F.R. § 1.475(a), and MPEP 1850 apply. These standards indicate that unity of invention exists when there is a technical relationship among the claimed inventions involving one or more "special technical features", where "special technical features" are those technical features that define a contribution that the invention, considered as a whole, makes over the prior art.

Further, as set forth in MPEP 1850(A), if the independent claims avoid the prior art and satisfy the unity of invention requirement, no problem with lack of unity arises with respect to any claims that depend on the independent claims. "In particular, it does not matter if a dependent claim itself contains a further invention." (See *id.*) Therefore, even if the restriction requirement is not withdrawn altogether, Applicants request that Claims 1-11 and 21-28 be considered together, as Claims 2-11 and 21-28 all depend from Claim 1. At present, these dependent claims are restricted among Groups I -XI. Similarly, Claims 49-51 depend from Claim 48, and therefore Groups XIV and XV should be considered together.

#### **REQUIREMENT TO ELECT A SINGLE SEQUENCE FOR CONSIDERATION**

In response to the requirement that Applicants elect one of Sequence ID No. 1 or Sequence ID No. 2 for the election to be complete, Applicants also respectfully traverse this requirement. MPEP 803.04 indicates that "normally ten sequences

constitute a reasonable number for examination purposes." Further, "in most cases, up to ten independent and distinct nucleotide sequences will be examined in a single application without restriction." Applicants submit that there is no undue burden on the Office to search both sequences together, as these sequences are functional homologues. (See p. 18, lines 3-6 of PCT/CA00/00801.) In addition, refusal by the Office to examine the two sequences together will constitute an undue burden for Applicants and the public. Applicants therefore request that this requirement be withdrawn.

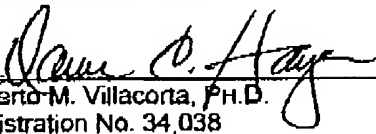
#### **ELECTION**

In order to comply with the requirement that a single group of claims be elected for examination, Applicants hereby provisionally elect Group IV, Claims 1-2, 4-9, 11-18, 43-44, and 47, and Sequence ID No. 1, subject to the traversals set forth above.

Applicants respectfully request that the Examiner reconsider the restriction in view of the claim amendments and remarks set forth above. If the restriction requirement is not withdrawn, Applicants request that the Examiner consider the claims of at least Groups IV, V, X, and XI together, as all of these groups relate to modulating flowering in a plant by regulating endogenous levels of hydroxylated derivatives of jasmonic acid, and therefore would not constitute an undue burden for the Examiner to search together. Applicants further request that both Sequence ID No. 1 and Sequence ID No. 2 be considered together, consistent with accepted Office practice.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3500. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

  
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